



US 20020086443A1

(19) **United States**(12) **Patent Application Publication**  
**Bamdad**(10) **Pub. No.: US 2002/0086443 A1**(43) **Pub. Date: Jul. 4, 2002**(54) **MAGNETIC IN SITU DILUTION**(52) **U.S. Cl. .... 436/526**(76) **Inventor: Cynthia C. Bamdad, Newton, MA**  
**(US)**(57) **ABSTRACT**

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**FEDERAL RESERVE PLAZA**  
**600 ATLANTIC AVENUE**  
**BOSTON, MA 02210-2211 (US)**(21) **Appl. No.: 09/971,099**(22) **Filed: Oct. 3, 2001****Related U.S. Application Data**(63) **Non-provisional of provisional application No.**  
**60/237,427, filed on Oct. 3, 2000. Non-provisional of**  
**provisional application No. 60/272,727, filed on Mar.**  
**1, 2001.****Publication Classification**(51) **Int. Cl.<sup>7</sup> ..... G01N 33/553**

The invention involves methods, assays, and components for the detection and analysis of binding between biological or chemical species, and can specifically be used for drug discovery. In an example where drug discovery is carried out, different candidate drugs can be attached to different articles such as magnetic beads. The beads can be exposed to colloid particles carrying signaling entities, or other signaling entities, immobilized with respect to protein targets of the drug candidates. After incubation, all beads are drawn to separate surface locations magnetically. Beads are released from surface locations where it is determined that signaling entities do not exist, and are removed from the assay. Beads held at other surface locations then are released, re-distributed, and re-attracted to surface locations. This is repeated with appropriate wash steps, until individual drug candidates can be isolated and identified.

